WHAT IS CLAIMED IS:

1. An image pick-up apparatus for picking up a plurality of images being chronologically arranged along time-series to provide a digital image, comprising:

a means for obtaining information of changes in gray level value between those of said plurality of images thus picked up; and

a means for deciding a timing at which at least one of said plurality of images is to be selectively extracted among those picked up images, based upon the results obtained by said changed image information obtaining means for using same in an image processing, later on.

2. An image pick-up apparatus according to Claim 1, wherein said changed image information obtaining means is configured so as to compare said gray level value of each one and same pixels of each one of said plurality of images with each other, and thereby obtaining a number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image and a number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other image.

3. An image pick-up apparatus according to Claim 2, wherein said timing deciding means decides a timing for selectively extracting one image among those picked up images, when said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image is less than the number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other image.

4. An image pick-up apparatus according to Claim 2, wherein said timing deciding means decides a timing for selectively extracting one image among those picked up images, when an absolute value of a difference between said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image and the number of

pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other images less than a predetermined threshold value of pixel numbers.

5. An image pick-up apparatus according to Claim 3, wherein,

said changed image information obtaining means obtains a number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in each one of said images thus picked-up; and

said timing deciding means decides a timing for selectively extracting one image among those picked up images, when said number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in one image outnumbering a predetermined threshold value of pixel numbers, and further when said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image is less than the number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other image.

6. An image pick-up apparatus according to Claim 2, wherein

said changed image information obtaining means obtains a number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in each one of said images thus picked-up; and

said timing deciding means decides a timing for selectively extracting one image among those picked up images, when said number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in one image outnumbering a predetermined threshold value of pixel numbers, and further when an absolute value of a difference between said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image and the

number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other images less than a predetermined threshold value of pixel numbers.

7. An image pick-up apparatus according to Claim 2, wherein said plurality of images are two successive images which had been picked up by said image pick-up apparatus successively.

8. An image pick-up apparatus according to Claim 7, wherein a first image among said plurality of successive image consists a first frame and a second image among said plurality of successive image consists a second frame.

9. An image pick-up apparatus according to Claim 8, wherein said apparatus further comprising an image picking up means, a memory means for storing said images picked up by said apparatus, which comprising a first memory means and a second memory means, a data processing means comprising a pixel comparing means, a pixel number counting means for counting a number of said pixels a gray level value of which has been changed and a timing deciding means for deciding a timing at which at least one of said images can be extracted as a suitable image for image processing purpose, and an output means.

10. An image pick-up apparatus according to Claim 9, wherein a first frame among said successive images is stored into said first memory means and a second frame among thereof and which has been picked up immediately after said first image by said image pick-up apparatus is stored into said second memory means.

11. An image pick-up apparatus according to Claim 9, wherein in said pixel comparing means, a gray level value of each one of said pixels of said first frame of said first image is compared with a gray level value of each one and same pixels of said second frame of said second image, each other.

12. An image pick-up apparatus according to Claim 1, wherein said image processing comprising a fingerprint image data processing.

13 An image pick-up method for picking up a plurality of images being chronologically arranged along time-series to provide a digital image,

comprising the steps of:

obtaining information of changes in gray level value between those of said plurality of images thus picked up; and

deciding a timing at which at least one of said plurality of images is to be selectively extracted among those picked up images, based upon the results obtained by said changed image information obtaining means for using same in an image processing, later on.

14. An image pick-up method according to Claim 13, where said step of obtaining said changed image information in gray level value in each of said plurality of images compares said gray level value of each one and same pixels of each one of said plurality of images with each other, and thereby obtaining a number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image and a number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other image.

15. An image pick-up method according to Claim 14, where said step of deciding a timing for selectively extracting one image among those picked up images, decides a timing for selectively extracting one image among those picked up images, when said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image is less than the number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other image.

16. An image pick-up method according to Claim 14, where said step of deciding a timing for selectively extracting one image among those picked up images, decides a timing when an absolute value of a difference between said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image and the number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other images less than a predetermined threshold value of pixel

numbers.

17. An image pick-up method according to Claim 13, wherein;

said step of obtaining said changed image information obtains a number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in each one of said images thus picked-up; and

said step of deciding a timing for selectively extracting one image among those picked up images decides a timing when said number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in one image outnumbering a predetermined threshold value of pixel numbers, and further when said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image is less than the number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other image.

18. An image pick-up method according to Claim 13, wherein;

said step of obtaining said changed image information obtains a number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in each one of said images thus picked-up; and

said step of deciding a timing for selectively extracting one image among those picked up images decides a timing when said number of pixels each having said gray-level value exceeding over a predetermined threshold value of said gray level value in one image outnumbering a predetermined threshold value of pixel numbers, and further when an absolute value of a difference between said number of pixels in one of said image, said gray-level value of which are increased from those of one and same pixels of other image and the number of pixels in one of said image, said gray-level value of which are decreased from those of one and same pixels of other images less than a

predetermined threshold value of pixel numbers.

19. An image pick-up method according to Claim 13, wherein said plurality of images are two successive images which had been picked up by said image pick-up apparatus successively.

20. An image pick-up method according to Claim 13, wherein a first image among said plurality of successive image consists a first frame and a second image among said plurality of successive image consists a second frame.

21. An image pick-up method according to Claim 13, wherein said apparatus further comprising an image picking up means, a memory means for storing said images picked up by said apparatus, which comprising a first memory means and a second memory means, a data processing means comprising a pixel comparing means, a pixel number counting means for counting a number of said pixels a gray level value of which has been changed and a timing deciding means for deciding a timing at which at least one of said images can be extracted as a suitable image for image processing purpose, and an output means and said method is further comprising the steps of;

storing a first frame image data among said successive images into said first memory means and

storing a second frame image data among said successive images into said second memory means.

22. An image pick-up method according to Claim 13, wherein said method further comprises the steps of;

comparing a gray level value of each one of said pixels of said first frame of said first image is compared with a gray level value of each one and same pixels of said second frame of said second image, each other.

23. An image pick-up method according to Claim 13, wherein said image processing comprising a fingerprint image data processing.